Mr. Michael Burns
Atchison Indiana, LLC d/b/a RMG Foundry
500 South Union Street
Mishawaka, Indiana 46544

Re: Significant Source Modification No:
141-12444-00007

Dear Mr. Burns:

Atchison Indiana, LLC d/b/a RMG Foundry applied for a Part 70 operating permit on June 6, 1996 for stationary grey and ductile iron foundry and conveyor components manufacturing source. An application to modify the source was received on June 27, 2000. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

One (1) Laempe LL 30 core machine, known as EU 7-4b, equipped with a scrubber for $SO_2$ and cartridge filter for PM control, capacity: 3.0 tons of sand per hour, 84 pounds of epoxy resin per hour, and 45 pounds of $SO_2$ per hour.

The Significant Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). If there are no changes to the proposed construction of the emission units, the source may begin operating on the date that an affidavit of construction is postmarked or hand delivered to IDEM pursuant to 326 IAC 2-7-10.5(h)(2)(A). If there are any changes to the proposed construction the source can not operate until an Operation Permit Validation Letter is issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Mark L. Kramer, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
MLK/MES
cc: File - St. Joseph County
U.S. EPA, Region V
St. Joseph County Health Department
Northern Regional Office
Air Compliance Section Inspector - Rick Reynolds
Compliance Data Section - Mendy Jones
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

# PART 70 SIGNIFICANT SOURCE MODIFICATION
# OFFICE OF AIR MANAGEMENT

## Atchison Indiana, LLC d/b/a RMG Foundry
## 500 South Union Street
## Mishawaka, Indiana 46544

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

| | |
|---|---|
| Source Modification No.: SSM 141-12444-00007 | |
| Issued by:<br>Paul Dubenetzky, Branch Chief<br>Office of Air Management | Issuance Date: |

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**SECTION A SOURCE SUMMARY**

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary gray and ductile iron foundry and conveyor components manufacturing source.

| | |
|---|---|
| Responsible Official: | Tom Jones |
| Source Address: | 500 South Union Street, Mishawaka, Indiana 46544 |
| Mailing Address: | 500 South Union Street, Mishawaka, Indiana 46544 |
| Phone Number: | 219 - 256 - 4292 |
| SIC Code: | 3321 |
| County Location: | St. Joseph |
| County Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Major Source, under PSD Rules;<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 Major PSD Source Categories |

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

One (1) Laempe LL 30 core machine, known as EU 7-4b, equipped with a scrubber for $SO_2$ and cartridge filter for PM control, capacity: 3.0 tons of sand per hour, 84 pounds of epoxy resin per hour, and 45 pounds of $SO_2$ per hour.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

However, in the event that the Title V application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

(1) If the Title V draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Title V draft.

(2) If the Title V permit has gone thru final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go

thru a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Title V permit at the time of issuance.

(3) If the Title V permit has not gone thru final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Title V permit, and the Title V permit will issued after EPA review.

## SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, on the attached Certification Form, with each submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this approval, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.

(b) Any application requesting an amendment or modification of this approval shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), visible emissions shall meet the following, unless otherwise stated in this approval:

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.5 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this approval, all air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

**Testing Requirements [326 IAC 2-7-6(1)]**

C.7 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.9 Gauge Specifications

(a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( ±2%) of full scale reading.

(b) Whenever a condition in this permit requires the measurement of liquid flow rate of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( ±2%) of full scale reading.

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

C.10 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM, when applicable). The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Reasonable response steps that may be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking reasonable response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to take reasonable response steps shall constitute a violation of the permit.

(c) Upon investigation of a compliance monitoring excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(e) All monitoring required in Section D shall be performed at all times the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.

(f) If for reasons beyond its control, the Permittee fails to perform the monitoring and record keeping as required by Section D, then the reasons for this must be recorded.

(1) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent of the operating time in any quarter.

(2) Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.

C.11 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

C.12 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.13 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this approval;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this approval, and whether a deviation from an approval condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance.

C.14 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this approval shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) The first report shall cover the period commencing on the date of issuance of this approval and ending on the last day of the reporting period.

**SECTION D.1 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

One (1) Laempe LL 30 core machine, known as EU 7-4b, equipped with a scrubber for $SO_2$ and cartridge filter for PM control, capacity: 3.0 tons of sand per hour, 84 pounds of epoxy resin per hour, and 45 pounds of $SO_2$ per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.1.1 Particulate Matter (PM) [326 IAC 6-1]

Pursuant to 326 IAC 6-1, the particulate matter (PM) emissions from the core machine shall not exceed 0.03 grains per dry standard cubic foot.

D.1.2 $SO_2$ [326 IAC 2-2]

The $SO_2$ emissions from the core machine shall not exceed 9.13 pounds per hour, equivalent to less than forty (40) tons per year. Therefore, the requirements of 326 IAC 2-2 do not apply.

D.1.3 VOC [326 IAC 8-1-6]

The throughput of sand to the core machine, known as EU 7-4b shall be limited to less than 17,858 tons per twelve (12) consecutive month period coupled with a VOC emission factor not to exceed 2.80 pounds per ton of sand handled, equivalent to VOC emissions of less than twenty-five (25) tons per year in order to avoid the requirements of 326 IAC 8-1-6.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the core machine and its control devices.

**Compliance Determination Requirements**

D.1.5 Testing Requirements [326 IAC 2-7-6(1,6)] [326 IAC 2-1.1-11]

Within 60 days after re-directing the scrubber exhaust to the outside atmosphere, but no later than 180 days after re-directing the scrubber exhaust to the outside atmosphere, the Permittee shall perform $SO_2$ testing of the emission rate and scrubber efficiency utilizing Method 6 (40 CFR 60, Appendix A) for $SO_2$, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

D.1.6 Particulate Matter (PM)

The cartridge filter for PM control shall be in operation and control emissions from the Laempe LL 30 core machine, known as EU 7-4b at all times that the core machine is in operation.

D.1.7 Sulfur Dioxide ($SO_2$)

The scrubber for $SO_2$ control shall be in operation and control emissions from the Laempe LL 30 core machine, known as EU 7-4b at all times that the core machine is in operation.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.1.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across the scrubber used in conjunction with the core machine operation, at least once per day when the core machine is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the scrubber shall be maintained within the range of 2.0 to 8.0 inches of water or shall be maintained within the range of inches of water specified by the manufacturer indicative of normal operations or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.9 pH of the Scrubbing Liquor

The Permittee shall record the pH of the scrubbing liquor used in conjunction with the core machine operation, at least once per shift when the core machine processes are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pH shall be maintained between a range of 9 and 14 or the range of pH established during the latest stack test.. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pH reading is below the mentioned range for any one reading.

D.1.10 Scrubber Flow Switch

The Permittee shall record whether or not the scrubber flow switch used in conjunction with the scrubber controlling $SO_2$ emissions from the core machine at least once per month. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the switch is not operating properly.

D.1.11 Scrubber Inspection

An inspection shall be performed each calendar quarter of the scrubber. Defective scrubber part(s) shall be replaced. A record shall be kept of the results of the inspection.

D.1.12 Failure Detection

In the event that a scrubber failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C).

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.1.13 Record Keeping Requirements

(a) To document compliance with Condition D.1.3, the Permittee shall maintain records of the throughput of sand to the core machine EU 7-6 on a monthly basis.

(b) To document compliance with Condition D.1.6, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.1.7, the Permittee shall maintain the daily records of the pH of the liquor used in conjunction with the core machine operations.

(d) To document compliance with Condition D.1.8, the Permittee shall maintain the monthly records of the check of the scrubber flow switch used in conjunction with the core machine operations.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.14 Reporting Requirements

A quarterly summary of the monthly information to document compliance with the throughput limit in Condition D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR MANAGEMENT
## COMPLIANCE DATA SECTION

### PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Atchison Indiana, LLC d/b/a RMG Foundry
Source Address: 500 South Union Street, Mishawaka, Indiana 46544
Mailing Address: 500 South Union Street, Mishawaka, Indiana 46544
Source Modification No.: 141-12444-00007

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.**

Please check what document is being certified:

**9** Test Result (specify) _____

**9** Report (specify) _____

**9** Notification (specify) _____

**9** Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR MANAGEMENT
## COMPLIANCE DATA SECTION

**Part 70 Source Modification Quarterly Report**

Source Name: Atchison Indiana, LLC d/b/a RMG Foundry
Source Address: 500 South Union Street, Mishawaka, Indiana 46544
Mailing Address: 500 South Union Street, Mishawaka, Indiana 46544
Source Modification No.: 141-12444-00007
Facility: Core Machine, EU 7-4b
Parameter: Throughput of Sand
Limit: Less than 17,858 tons of sand per twelve (12) consecutive month period, equivalent to less than twenty-five (25) tons per year of VOC

YEAR: _____

| Month | Throughput (tons) | Throughput (tons) | Throughput (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

**9** No deviation occurred in this month.

**9** Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Mail to: Permit Administration & Development Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Atchison Indiana, LLC d/b/a RMG Foundry
500 South Union Street
Mishawaka, Indiana 46544

**Affidavit of Construction**

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____ , I have personal knowledge of the
(Company Name)
representations contained in this affidavit and am authorized to make these representations on behalf of _____ .
(Company Name)

4. I hereby certify that Atchison Indiana, LLC d/b/a RMG Foundry, 500 South Union Street, Mishawaka, Indiana 46544, completed construction of a Laempe LL 30 core machine and scrubber on _____ in conformity with the requirements and intent of the Part 70 Operating Permit application received by the Office of Air Management on June 27, 2000 and as permitted pursuant to **Source Modification No. 141-12444, Plant ID No. 141-00007** issued on _____ .

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

_____
Signature

_____
Date

STATE OF INDIANA)
)SS
COUNTY OF _____ )

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on this _____ day of _____, 20 _____ .

My Commission expires: _____ .

_____
Signature

_____
Name (typed or printed)

# Indiana Department of Environmental Management
# Office of Air Management

Addendum to the
Technical Support Document for a Part 70 Significant Source Modification

**Source Name:** **Atchison Indiana, LLC d/b/a RMG Foundry**
**Source Location:** **500 South Union Street, Mishawaka, Indiana 46544**
**County:** **St. Joseph**
**SIC Code:** **3321**
**Source Modification:** **141-12444-00007**
**Permit Reviewer:** **Mark L. Kramer**

On August 22, 2000, the Office of Air Management (OAM) had a notice published in the South Bend Tribune, South Bend, Indiana, stating that Atchison Indiana, LLC d/b/a RMG Foundry had applied for a Significant Source Modification for the installation of a Laempe LL 30 core machine with scrubber for sulfur dioxide control. The notice also stated that OAM proposed to issue a Significant Source Modification for this operation and provided information on how the public could review the proposed Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Significant Source Modification should be issued as proposed.

On August 25, 2000, James M. Hanlon of EIS Environmental Engineers, Inc., submitted comments behalf of Atchison Indiana, LLC d/b/a RMG Foundry on the proposed Significant Source Modification supplemented with additional comments received September 1, 2000. The comments are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded.**

**Introduction:**

The new core machine, a Laempe LL 30 core machine, is designated as EU 7-4b and will utilize the same pneumatic sand transfer system as core making units EU 7-4(a) and EU 7-5 and therefore, the PM and $PM_{10}$ emissions should have been attributed to EU 7-4 and not EU 7-6. The PM emissions from the new core machine, a Laempe LL 30 core machine, designated as EU 7-4b, will be controlled by a cartridge filter, not a baghouse or the proposed scrubber.

**Comment 1:**

The draft cover letter for issuance of the permit states that "the source may begin operating on the date that the IDEM receives an affidavit of construction pursuant to 326 IAC 2-7-10.5(h)." This should read " the source may begin operating on the date that the affidavit of construction is mailed to the IDEM." This is consistent with 326 IAC 2-7-10.5(h)(2)(A) and the permit language at Section B.5(a).

**Response 1:**

326 IAC 2-7-10.5(h)(2)(A) states that the source may operate "upon submission of the affidavit of construction," whereas Condition B.5(a) states the following:

B.5 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

Therefore, the pertinent paragraph of the letter has been revised as follows to allow operation to begin on the date the affidavit of construction is postmarked or hand delivered to IDEM as follows:

The Significant Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). If there are no changes to the proposed construction of the emission units, the source may begin operating on the date that ~~IDEM receives~~ an affidavit of construction **is postmarked or hand delivered to IDEM** pursuant to 326 IAC 2-7-10.5(h)**(2)(A)**. If there are any changes to the proposed construction the source can not operate until an Operation Permit Validation Letter is issued.

**Comment 2:**

As stated above, the new core machine shares the sand handing system used by the two present core machines. In the original Title V application, the particulate emissions associated with the sand handing were listed on the page calculating emissions from EU 7-4. These emissions are actually controlled by a baghouse that has airflow less than 3,000 cfm and is, therefore, an insignificant source. The particulate emissions due to the increased usage of the sand handling system should have been shown on the emissions page for EU 7-4. The corrected emissions calculation pages and a spreadsheet are included herewith to clarify the situation. The scrubber does not control particulate.

**Response 2:**

The equipment list in Condition A.2, Section D.1 and in the Quarterly Report has been revised to reflect the fact that the PM emissions will be controlled by a cartridge filter and not a baghouse or the scrubber and the emission unit is now identified as EU 7-4b as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

One (1) Laempe LL 30 core machine, known as EU **7-4b** ~~7-6,~~ equipped with a scrubber for $SO_2$ and **cartridge filter for** PM control, capacity: 3.0 tons of sand per hour, 84 pounds of epoxy resin per hour, and 45 pounds of $SO_2$ per hour.

The proper PM and $PM_{10}$ control efficiency of 99.8% was used for the cartridge filter (originally attributed to the scrubber), therefore, the potential PM and $PM_{10}$ emissions after controls and the throughput limit do not change.

Since the PM emissions will be controlled by the cartridge filter, Condition D.1.1 has been revised since the core machine control devices are exhausted to general ventilation as follows:

D.1.1 Particulate Matter (PM) [326 IAC 6-1]

Pursuant to 326 IAC 6-1, the particulate matter (PM) emissions from the core machine shall not exceed 0.03 grains per dry standard cubic foot~~, equivalent to 1.03 pounds per hour at a flow rate of 4,000 dry standard cubic feet per minute~~.

D.1.3 VOC [326 IAC 8-1-6]

The throughput of sand to the core machine, known as EU 7-~~6~~**4b** shall be limited to less than 17,858 tons per twelve (12) consecutive month period coupled with a VOC emission factor not to exceed 2.80 pounds per ton of sand handled, equivalent to VOC emissions of less than twenty-five (25) tons per year in order to avoid the requirements of 326 IAC 8-1-6.

In addition, Condition D.1.4 has been changed as follows to account for the fact that the emissions are controlled by more than one (1) control device as follows:

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the core machine and its control device**s**.

Conditions D.1.6 and D.1.7 has been added under Compliance Determination since both control devices must be operated as all times that the core machine operates as follows and all remain conditions have been re-numbered.

**D.1.6 Particulate Matter (PM)**

**The cartridge filter for PM control shall be in operation and control emissions from the Laempe LL 30 core machine, known as EU 7-4b at all times that the core machine is in operation.**

**D.1.7 Sulfur Dioxide ($SO_2$)**

**The scrubber for $SO_2$ control shall be in operation and control emissions from the Laempe LL 30 core machine, known as EU 7-4b at all times that the core machine is in operation.**

**Comment 3:**

Section 1.5(a) requires testing for $SO_2$ emissions from the scrubber. This requirement is totally unnecessary under the proposed arrangement for the following reasons:

(a) The scrubber will exhaust indoors (which will make testing very difficult).

(b) At the proposed efficiency (79.7%) required to achieve compliance, the emissions from the scrubber would be over 100 ppm SO2.

(c) NIOSH describes sulfur dioxide as a “colorless gas with a characteristic, irritating and pungent odor.” It also lists the IDLH (immediately dangerous to life and health) exposure level as 100 ppm.

In summary, if the scrubber were not performing properly, the effect on workers in the area would be immediately noticeable. This situation is a much more effective way of assuring performance than a test once every five years.

Atchison Indiana proposes that the testing requirement be retained but amended to waive the sche-

duled testing requirements so long as the scrubber exhaust is only into the building.

**Response 3:**

Condition D.1.5(a) has been revised as follows to require testing only if the scrubber exhaust is re-directed from inside the building to the outside atmosphere.

D.1.5 Testing Requirements [326 IAC 2-7-6(1,6)] [326 IAC 2-1.1-11]

~~(a)~~ Within 60 days after **re-directing the scrubber exhaust to the outside atmosphere** ~~achieving maximum production rate~~, but no later than 180 days after **re-directing the scrubber exhaust to the outside atmosphere** ~~initial start-up~~, the Permittee shall perform $SO_2$ testing of the emission rate and scrubber efficiency utilizing Method 6 (40 CFR 60, Appendix A) for $SO_2$, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

**Comment 4:**

Section 1.5(b) requires testing for VOC emissions to validate the emission factor used on the Title V form emission table in the application. This "emission factor" was back calculated to fit the format of the table. In fact, no emission factor was used. The emissions were calculated from the formulation of the resins and assume that all of the VOC in these materials is emitted. This same calculation is repeated in the IDEM Technical Support Document. Since this method calculates the maximum possible emissions, there are no assumptions that need to be verified by testing. The only "assumption" used in any of the emissions calculations in the permit application is the manufacturer's statement that 50% of the cumene is reacted in the mold. However, the sand tonnage limit imposed in the permit for VOC reduces the total potential usage of cumene below the 10 ton threshold, thus any "assumptions" made in the calculation do effect whether or not it is a major source of HAP.

It should also be noted that physical testing of this process is not possible because it takes place in a sulfur dioxide atmosphere. There is no test method that can deal with the chemistry and the physical restrictions of this process. The reality of the situation is that because the VOC are exposed to concentrated acid during molding, followed by concentrated caustic in the scrubber, most if not all of the VOC will be destroyed. However, because it is impossible to test for the actual emission rate, Atchison Indiana is willing to report the maximum theoretical emissions for this process. Therefore, all testing requirements for VOC should be removed from the permit.

**Response 4:**

IDEM has accepted the rationale explained above that VOC testing should not be required and therefore Condition D.1.5(b) has been deleted as follows.

~~(b) Within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, the Permittee shall perform VOC testing of the VOC emission factor of the core machine and scrubber utilizing Method 25 (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these~~

~~facilities are in compliance.~~

**Comment 5:**

With regard to Condition D.1.8 Liquor Flow Rate, we have discussed the proposed permit requirements with the scrubber manufacturer. They feel that it is not advisable to add flow measurement to the scrubber. This is a small "package" unit. It comes with a paddle-type flow switch as a standard feature. The switch is interlocked to the operation and will shutdown the scrubber if there is insufficient flow for proper operation. The switch is calibrated in the factory. It cannot be re-calibrated in the field. If the switch wears, it will cause the unit to shutdown prematurely, that is, when there still is sufficient flow. This switch will be tested on a periodic basis to assure that it is functional.

As discussed in our previous communications, any reduction of operating efficiency in the scrubber will be quickly noticeable to workers in the area because the scrubber exhausts indoors and will produce a noxious sulfur odor.

**Response 5:**

Condition D.1.10 (was Condition D.1.8) has been revised to eliminate the requirement to monitor the liquor flow rate and replaced by a monthly check of the switch and Condition D.1.13 (was Condition D.1.11) has been revised accordingly as follows:

D.1.10 ~~Liquor Flow Rate~~ Scrubber Flow Switch

~~The Permittee shall record the flow rate scrubbing liquor used in conjunction with the core machine operation at least once per shift when the core machine is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the liquor flow rate shall be maintained at a minimum of 200 gallons per minute or shall be maintained within the range of gallons of scrubbing liquor per minute specified by the manufacturer for normal operations or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the flow rate reading is outside of the above mentioned range for any one reading.~~

~~The instrument used for determining the flow rate shall comply with Section C - Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.~~

**The Permittee shall record whether or not the scrubber flow switch used in conjunction with the scrubber controlling $SO_2$ emissions from the core machine at least once per month. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the switch is not operating properly.**

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.13 Record Keeping Requirements

(a) To document compliance with Condition D.1.3, the Permittee shall maintain records of the throughput of sand to the core machine EU 7-6 on a monthly basis.

(b) To document compliance with Condition D.1.6, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when

venting to the atmosphere:

(A) Inlet and outlet differential static pressure.

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.1.7, the Permittee shall maintain the daily records of the pH of the liquor used in conjunction with the core machine operations.

(d) To document compliance with Condition D.1.8, the Permittee shall maintain the **monthly** ~~daily~~ records of **the check of the scrubber flow switch** ~~liquor flow rate~~ used in conjunction with the core machine operations.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

# Indiana Department of Environmental Management
# Office of Air Management

## Technical Support Document (TSD) for a Part 70 Significant Source Modification

**Source Background and Description**

| | |
|---|---|
| **Source Name:** | **Atchison Indiana, LLC d/b/a RMG Foundry** |
| **Source Location:** | **500 South Union Street, Mishawaka, Indiana 46544** |
| **County:** | **St. Joseph** |
| **SIC Code:** | **3321** |
| **Operation Permit No.:** | **141-6087-00007** |
| **Operation Permit Issuance Date:** | **Not Yet Issued** |
| **Significant Source Modification No.:** | **SSM 141-12444-00007** |
| **Permit Reviewer:** | **Mark L. Kramer** |

The Office of Air Management (OAM) has reviewed a modification application from Atchison Indiana, LLC d/b/a RMG Foundry relating to the construction of the following emission units and pollution control devices:

One (1) Laempe LL 30 core machine, known as EU 7-6, equipped with a scrubber for $SO_2$ and PM control, capacity: 3.0 tons of sand per hour, 84 pounds of epoxy resin per hour, and 45 pounds of $SO_2$ per hour.

**History**

On June 27, 2000, Atchison Indiana, LLC d/b/a RMG Foundry submitted an application to the OAM requesting to construct and operate an additional core machine with a new scrubber to their existing plant. The name of the company has been changed from Rockwell Automation - Dodge to Dodge - Reliance Electrical Industrial Company to most recently, Atchison Indiana, LLC d/b/a RMG Foundry

**Existing Approvals**

The source applied for a Part 70 Operating Permit T 141-6087 on June 6, 1996. The source has been operating under previous approvals including, but not limited to the following:

**St Joseph County**

(a) Registration No. D 1 123, issued January 6, 1993 and January 6, 1997.

(b) Registration No. D 1 132, issued January 6, 1993 and January 6, 1997.

(c) Registration No. D 1 135, issued January 6, 1993 and January 6, 1997.

(d) Registration No. D 1 136, issued January 6, 1993 and January 6, 1997.

(e) Registration No. D 1 137, issued January 6, 1993 and January 6, 1997.

(f) Registration No. D 1 139A, issued January 6, 1993 and January 6, 1997.

(g) Registration No. D 1 158, issued January 6, 1993 and January 6, 1997.

(h) Registration No. D 1 160, issued January 6, 1993 and January 6, 1997.

(i) Registration No. D 1 161, issued January 6, 1993 and January 6, 1997.

(j) Registration No. D 1 162, issued January 6, 1993 and January 6, 1997.

(k) Registration No. D 1 166, issued January 6, 1993 and January 6, 1997.

(l) Registration No. D 1 171, issued January 6, 1995 and January 6, 1997.

(m) Registration No. D 1 175, issued January 6, 1993 and January 6, 1997.

(n) Registration No. D 1 176, issued January 6, 1993 and January 6, 1997.

(o) Registration No. D 1 177, issued January 6, 1993 and January 6, 1997.

(p) Registration No. D 1 188, issued January 6, 1993 and January 6, 1997.

(q) Registration No. D 1 192, issued January 6, 1993 and January 6, 1997.

**IDEM, OAM**

(r) Registration CP 141-2548-00007, issued May 22, 1992.

(s) Registration CP 141-2503-00007, issued September 28, 1992.

(t) Registration CP 141-3115-00007, issued November 2, 1993.

(u) Registration CP 3867-00007, issued September 20, 1994.

(v) CP 141-4053-00007, issued January 13, 1995.

(w) Exemption 141-4507-00007, issued May 11, 1995.

(x) CP 141-4010-00007, issued August 30, 1995.

(y) Exemption CP 141-5749-00007, issued July 17, 1996.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

The scrubber exhausts inside the foundry building.

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on June 27, 2000. Additional information was received on July 24, 2000.

**Emission Calculations**

See page 1 of 1 of Appendix A of this document for detailed emissions calculations.

**Potential To Emit of Modification (Core Machine, EU 7-6)**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

| **Pollutant** | **Potential To Emit** (tons/year) |
|---|---|
| PM | 3.55 |
| $PM_{10}$ | 3.55 |
| $SO_2$ | 197 |
| VOC | 36.8 |
| CO | 0.00 |
| $NO_X$ | 0.00 |

| **HAPs** | **Potential To Emit** (tons/year) |
|---|---|
| Cumene (Isopropyl benzene) | 5.65 |
| TOTAL | 5.65 |

**Actual Emissions**

The following table shows the actual emissions from the source. This information reflects the 1998 OAM emission data.

| **Pollutant** | **Actual Emissions** (tons/year) |
|---|---|
| PM | 108 |
| $PM_{10}$ | 67.4 |

| Pollutant | Actual Emissions (tons/year) |
|---|---|
| $SO_2$ | 0.047 |
| VOC | 67.6 |
| CO | 0.95 |
| $NO_X$ | 4.56 |

No HAPs emissions data have been reported to IDEM, OAM.

**County Attainment Status**

The source is located in St. Joseph County.

| Pollutant | Status |
|---|---|
| $PM_{10}$ | attainment |
| $SO_2$ | attainment |
| $NO_2$ | attainment |
| Ozone | maintenance |
| CO | attainment |
| Lead | attainment |

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and $NO_X$ emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) St. Joseph County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Source Status**

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant | Emissions (tons/year) |
|---|---|
| PM | 107 |
| $PM_{10}$ | 105 |
| $SO_2$ | 65.0 |
| VOC | 129 |

| Pollutant | Emissions (tons/year) |
|---|---|
| CO | 12.0 |
| $NO_X$ | 15.0 |

(a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of one hundred (100) tons per year or more, and it is one of the 28 listed source categories.

(b) These emissions are based upon January 21, 1999 version of the AIRS Quick Look Report.

**Potential to Emit of Modification After Issuance**

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

| Pollutant | PM (tons/yr) | $PM_{10}$ (tons/yr) | $SO_2$ (tons/yr) | VOC (tons/yr) | CO (tons/yr) | $NO_X$ (tons/yr) |
|---|---|---|---|---|---|---|
| Proposed Modification | 0.027 | 0.027 | < 40.0 | < 25.0 | 0.00 | 0.00 |
| PSD Significant Level | 25 | 15 | 40 | 40 | 100 | 40 |

Note the potential to emit (PTE) of sulfur dioxide ($SO_2$) decreased from 197 to 0.268 tons per year by use of the proposed wet scrubber as a control device. The PTE is therefore less than the forty (40) tons per year.

(a) This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

(b) The input VOC is limited to less than twenty-five (25) tons per year, therefore, the BACT requirements of 326 IAC 8-1-6 do not apply. This VOC emission limit is equivalent to a sand throughput limit of less than 17,858 tons of sand per twelve (12) consecutive month period.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T 141-6087) application on June 6, 1996. The core machine, known as EU 7-6, equipped with a scrubber for $SO_2$ and PM control, being reviewed under this permit shall be incorporated in the submitted Part 70 application.

**Justification for Modification**

(a) The Part 70 Operating Permit is being modified through a Part 70 Significant Source Modification to a yet to be issued Part 70 Operating Permit because the potential to emit before

controls of this modification exceeds twenty five (25) tons per year. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4).

(b) Since the Part 70 Operating Permit for this source has not been issued yet, the approval of this Significant Source Modification will allow the source to construct and operate.

**Federal Rule Applicability**

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) This modification does not involve a pollutant-specific emissions unit with the potential to emit after control in an amount equal to or greater than one hundred (100) tons per year. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not applicable.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

**State Rule Applicability - Individual Facilities**

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

In order to avoid the applicability of 326 IAC 2-2, the outlet exhaust of the scrubber shall not exceed an $SO_2$ emission rate of 9.13 pounds per hour, equivalent to less than forty (40) tons per year. This 9.13 pound per hour $SO_2$ emission rate requires an overall minimum control efficiency greater than seventy-nine and seven tenths percent (79.7%). The applicant has stated that the addition of this new core machine does not affect the potential to emit of any other facilities at this source.

326 IAC 2-4.1-1 (New source toxics control)

This modification is not subject to this rule since the limited single HAP is less than ten (10) tons per year and this core machine cannot produce finished product by itself.

326 IAC 6-1 (Nonattainment area limitations)

Since St. Joseph County is listed in this rule and the potential PM emissions from the entire source are greater than one hundred (100) tons per year, those facilities not specifically listed in 326 IAC 6-1-18 are subject to a PM emission rate not to exceed 0.03 grains per dry standard cubic foot. Although the scrubber exhausts inside the foundry, the flow rate for the scrubber exhaust of 4,000 cubic feet per minute coupled with the allowable PM emission rate of 0.03 grains per dry standard cubic foot yields an allowable PM emission rate of:

4,000 dscfm * 1 lb/7,000 gr * 0.03 gr/dscf * 60 min/1 hr = 1.03 pounds per hour.

From page 1 of 1 of Appendix A, the controlled PM emission rate of 0.009 pounds per hour complies with 326 IAC 6-1.

326 IAC 8-1-6 (New facilities: general reduction requirements)

This rule may apply to new facilities as of January 1, 1980. Although the potential VOC emissions from the one (1) Laempe LL 30 core machine, known as EU 7-6, exceed twenty-five (25) tons per year, the source has agreed to limit throughput of sand to less than 17,858 tons per twelve (12) con-

secutive month period coupled with a VOC emission factor not to exceed 2.80 pounds of VOC per ton of sand handled, equivalent to less than twenty-five (25) tons of VOC per year.

**Testing Requirements**

The $SO_2$ and VOC emissions from the proposed core machine equipped with a scrubber were calculated as shown on page 1 of 1 of Appendix A.

To verify that the controlled emission rate of $SO_2$ from the proposed scrubber is less than 9.13 pounds per hour, equivalent to an overall capture and destruction efficiency of greater than seventy-nine and seven tenths (79.7%), testing of the scrubber is required.

Since non-standard emission factors were used based on the amount and composition of the resins, stack tests will be required to show that the emission factor of 2.80 pounds of VOC per ton of sand used in not exceeded.

**Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

The core machine has applicable compliance monitoring conditions as specified below:

(a) The Permittee shall record the total static pressure drop across the scrubber controlling the core machine, at least once per day when the core machine is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the scrubber shall be maintained within the range of 2.0 to 8.0 inches of water or within the range of inches of water as specified by the manufacturer selected indicative of normal operations or a range established during the latest stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading.

(b) The Permittee shall record the pH and flow rate of the scrubbing liquor controlling the core machine at least once per shift when the core machine is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pH shall be maintained between a range of 9 and 14 and the liquor flow rate maintained at a

minimum of 200 gallons per minute or shall be maintained within the range of gallons of scrubbing liquor per minute specified by the manufacturer for normal operations or the range of pH and flow rates established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pH reading and/or flow rate are outside of the above mentioned ranges for any one reading.

These monitoring conditions are necessary because the scrubber for the core machine operation must operate properly to ensure compliance with 326 IAC 2-2 and 326 IAC 2-7 (Part 70).

**Conclusion**

The construction and operation of this Laempe LL 30 core machine shall be subject to the conditions of the attached proposed Significant Source Modification No. 141-12444-00007.

## Appendix A: Potential Emission Calculations

**Company Name:** Atchison Indiana, LLC d/b/a RMG Foundry
**Address City IN Zip:** 500 South Union Street, Mishawaka, Indiana 46544
**Sig. Source Mod:** SSM 141-12444
**Plt ID:** 141-00007
**Reviewer:** Mark L. Kramer
**Date:** June 27, 2000

**Emission Unit** **7-6 Core Machine**

Throughput Limited to 17,858 tons of sand per year to avoid the requirements of 326 IAC 8-1-6

| Pollutant | Maximum Rate (tons/hr) of Sand | Emission Factor (lbs/tons) | Uncontrolled Emission Rate (lbs/hr) | Uncontrolled Emission Rate (tons/yr) | Control Efficiency (%) | Controlled Emission Rate (lbs/hr) | Controlled Emission Rate (tons/yr) | Limited Controlled Emission Rate (tons/yr) |
|---|---|---|---|---|---|---|---|---|
| PM | 3 | 0.27 | 0.81 | 3.55 | 98.9% | 0.009 | 0.039 | 0.0265 |
| PM-10 | 3 | 0.27 | 0.810 | 3.548 | 98.9% | 0.009 | 0.039 | 0.0265 |
| SO2 | 3 | 15.00 | 45.00 | 197.10 | 99.8% | 0.09 | 0.394 | 0.2679 |
| NOx | 3 | 0.00 | 0.00 | 0.00 | 0.0% | 0.00 | 0.00 | 0.0000 |
| VOC | 3 | 2.80 | 8.40 | 36.79 | 0.0% | 8.40 | 36.79 | <25 |
| CO | 3 | 0.00 | 0.00 | 0.00 | 0.0% | 0.00 | 0.00 | 0.0000 |
| Isopropbenzene | 3 | 0.43 | 1.29 | 5.65 | 0.0% | 1.29 | 5.65 | 3.8395 |

**Sand Usage 3.0 tons/hour**
**Resin Usage 1.4% of Sand or** **84** **pounds/hr**
**SO2 Usage** **15 pounds/ton of sand or** **45** **pounds/hr**

Binder Epoxy/SO2

| | % Reacted | % Evaporated | % Remaining in Mold/Core |
|---|---|---|---|
| Cumene Hydroperoxide | 90 | 0 | 10 |
| Isopropylbenzene (cumene) | 0 | 50 | 50 |

Only 10% of both resin is VOC, therefore VOC emission factor is 10% of 84 pounds/hr or 2.80 pounds/ton of sand

1.29 lbs/hr cumene = 5.89% by weight of Resin 4342 which is 52% of total & 50% is evaporated times resin use per hour (84 lbs/hr)